

Abstract

HYDRAULIC MACHINE AND REVERSIBLE METERING PUMP EQUIPPED WITH SUCH A MACHINE

The invention concerns a hydraulic machine comprising: a
5 casing (14); a differential piston (1) having an upper ring
(23) and a lower base (27), suitable for sliding in
reciprocating movement respectively in the casing and in a
cylindrical housing (22) inside the envelope, the piston
separating two chambers (16, 17) of the casing; hydraulic
10 switching means for supplying liquid to and discharging
liquid from the chambers separated by the piston, said
switching means being controlled by the movements of the
piston and comprising at least one rod (4) acting on a
distribution member (12), said distribution member
15 comprising an upper valve (3) cooperating with a first seat
(25) provided in the upper ring (23) of the piston and at
least one lower valve (9) cooperating with a second seat
(26) provided in the lower base (27) of the piston; and
triggering means capable of causing, at the end of the
20 stroke of the piston, a sudden change in the position of the
switching means, under the action of an elastic means (E),
to reverse the stroke. The lower and upper valve seats each
respectively accept an upper frustoconical portion (25a;
26a) and a lower frustoconical portion (25c; 26c) tapering
25 in opposite directions to each other. The invention also
concerns a reversible metering pump comprising such a
hydraulic machine.

Fig. 1a